

LIST OF SEQUENCES

<110> NATIONAL INSTITUTE FOR AGRICULTURAL RESEARCH (INRA)

<120> Procedure for the preparation of 1,3-propanediol starting from a recombinant micro-organism, in the absence of coenzyme B12 or one of its precursors.

<130> 1,3-propanediol INRA

<140>

<141>

<160> 10

<170> Patent IN Ver. 2.1.

<210> 1

<211> 2364

<212> DNA

<213> Clostridium butyricum

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<211> 915

<212> DNA

<213> *Clostridium butyricum*

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<212> DNA

<213> Clostridium butyricum

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<213> Clostridium butyricum

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<213> Clostridium butyricum

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210-6

· 211 · 787

212 PRT

213 Clostridium butyricum

400 - 6

Met Ile Ser Lys Glu Ile Ser Thr Glu Thr Glu Arg Ile Asn Ile Leu
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Lys Ala Glu Ile Ileu Asn Ala Lys Pro Cys Val Glu Ser Glu Arg Ala
 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

Leu Arg Arg Ala Leu Ala Leu Lys His Ile Leu Thr Asn Ile Ile Ile

The file `ArchiApp.Git` also contains the initial Git repository. This file is located in the `ArchiApp` folder.

Glu Glu Ser Lys Glu Lys Leu Lys Asp Val Phe Glu Tyr Trp Asn Gly
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Lys Thr Thr Ser Glu Leu Ala Thr Ser Tyr Met Thr Glu Glu Thr Arg
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Glu Ala Val Asn Cys Glu Val Phe Thr Val Gly Asn Tyr Tyr Tyr Asn
145 150 155 160

Gly Val Gly His Val Ser Val Asp Tyr Gly Lys Val Leu Arg Val Gly
165 170 175

Phe Asn Gly Ile Ile Asn Glu Ala Lys Glu Gln Leu Glu Lys Asn Arg
180 185 190

Ser Ile Asp Pro Asp Phe Ile Lys Lys Glu Lys Phe Leu Asn Ser Val
195 200 205

Ile Ile Ser Cys Glu Ala Ala Ile Thr Tyr Val Asn Arg Tyr Ala Lys
210 215 220

Lys Ala Lys Glu Ile Ala Asp Asn Thr Ser Asp Ala Lys Arg Lys Ala
225 230 235 240

Glu Leu Asn Glu Ile Ala Lys Ile Cys Ser Lys Val Ser Gly Glu Gly
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Ala Lys Ser Phe Tyr Glu Ala Cys Gln Leu Phe Trp Phe Ile His Ala
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Ile Ile Asn Ile Glu Ser Asn Gly His Ser Ile Ser Pro Ala Arg Phe
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Asp Gln Tyr Met Tyr Pro Tyr Tyr Glu Asn Asp Lys Asn Ile Thr Asp
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Lys Phe Ala Gln Glu Leu Ile Asp Cys Ile Trp Ile Lys Leu Asn Asp
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Ile Asn Lys Val Arg Asp Glu Ile Ser Thr Lys His Phe Gly Gly Tyr
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Pro Met Tyr Gln Lys Leu Ile Val Gly Gly Gln Asn Ser Glu Gly Lys
340 345 350

Asp Ala Thr Asn Lys Val Ser Tyr Met Ala Leu Glu Ala Ala Val His
355 360 365

Val Lys Leu Pro Gln Pro Ser Leu Ser Val Arg Ile Trp Asn Lys Thr
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Pro Asp Glu Phe Leu Leu Arg Ala Ala Glu Leu Thr Arg Glu Gly Leu
385 390 395 400

Gly Leu Pro Ala Tyr Tyr Asn Asp Glu Val Ile Ile Pro Ala Leu Val
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Ser Arg Gly Leu Thr Leu Glu Asp Ala Arg Asp Tyr Gly Ile Ile Gly
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Cys Val Glu Pro Gln Lys Pro Gly Lys Thr Glu Gly Trp His Asp Ser
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Ala Phe Phe Asn Leu Ala Arg Ile Val Glu Leu Thr Ile Asn Ser Gly
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Phe Asp Lys Asn Lys Gln Ile Gly Pro Lys Thr Gln Asn Phe Glu Glu
465 470 475 480

Met Lys Ser Phe Asp Glu Phe Met Lys Ala Tyr Lys Ala Gln Met Glu
485 490 495

Tyr Phe Val Lys His Met Cys Cys Ala Asp Asn Cys Ile Asp Ile Ala
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His Ala Glu Arg Ala Pro Leu Pro Phe Leu Ser Ser Met Val Asp Asn
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Cys Ile Gly Lys Gly Lys Ser Leu Gln Asp Gly Gly Ala Glu Tyr Asn
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Phe Ser Gly Pro Gln Gly Val Gly Val Ala Asn Ile Gly Asp Ser Leu
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Val Ala Val Lys Lys Ile Val Phe Asp Glu Asn Lys Ile Thr Pro Ser
565 570 575

Glu Leu Lys Lys Thr Leu Asn Asn Asp Phe Lys Asn Ser Glu Glu Ile
580 585 590

Gln Ala Leu Leu Lys Asn Ala Pro Lys Phe Gly Asn Asp Ile Asp Glu
595 600 605

Val Asp Asn Leu Ala Arg Glu Gly Ala Leu Val Tyr Cys Arg Glu Val
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Asn Lys Tyr Thr Asn Pro Arg Gly Gly Asn Phe Gln Pro Gly Leu Tyr
625 630 635 640

Pro Ser Ser Ile Asn Val Tyr Phe Gly Ser Leu Thr Gly Ala Thr Pro
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Asp Gly Arg Lys Ser Gly Gln Pro Leu Ala Asp Gly Val Ser Pro Ser
660 665 670

Arg Gly Cys Asp Val Ser Gly Pro Thr Ala Ala Cys Asn Ser Val Ser
675 680 685

Lys Leu Asp His Phe Ile Ala Ser Asn Gly Thr Leu Phe Asn Gln Lys
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Phe His Pro Ser Ala Leu Lys Gly Asp Asn Gly Leu Met Asn Leu Ser
705 710 715 720

Ser Leu Ile Arg Ser Tyr Phe Asp Gln Lys Gly Phe His Val Gln Phe
725 730 735

Asn Val Ile Asp Lys Lys Ile Leu Leu Ala Ala Gln Lys Asn Pro Glu
740 745 750

Lys Tyr Gln Asp Leu Ile Val Arg Val Ala Gly Tyr Ser Ala Gln Phe
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Ile Ser Leu Asp Lys Ser Ile Gln Asn Asp Ile Ile Ala Arg Thr Glu
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His Val Met
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<212> PRT

<213> Clostridium butyricum

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Ser Met Ser Cys Leu Trp Cys Ser Asn Pro Glu Ser Gln Asp Ile Lys
35 40 45

Pro Gln Val Met Phe Asn Lys Asn Leu Cys Thr Lys Cys Gly Arg Cys
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Lys Ser Gln Cys Lys Ser Ala Gly Ile Asp Met Asn Ser Glu Tyr Arg
65 70 75 80

Ile Asp Lys Ser Lys Cys Thr Glu Cys Thr Lys Cys Val Asp Asn Cys
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Leu Ser Gly Ala Leu Val Ile Glu Gly Arg Asn Tyr Ser Val Glu Asp
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Val Ile Lys Glu Leu Lys Lys Asp Ser Val Gln Tyr Arg Arg Ser Asn
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Gly Gly Ile Thr Leu Ser Gly Gly Glu Val Leu Leu Gln Pro Asp Phe
130 135 140

Ala Val Glu Leu Leu Lys Glu Cys Lys Ser Tyr Gly Trp His Thr Ala
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Ile Glu Thr Ala Met Tyr Val Asn Ser Glu Ser Val Lys Lys Val Ile
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Pro Tyr Ile Asp Leu Ala Met Ile Asp Ile Lys Ser Met Asn Asp Glu
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Ile His Arg Lys Phe Thr Gly Val Ser Asn Glu Ile Ile Leu Gln Asn
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Ile Lys Leu Ser Asp Glu Leu Ala Lys Glu Ile Ile Ile Arg Ile Pro
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Val Ile Glu Gly Phe Asn Ala Asp Leu Gln Ser Ile Gly Ala Ile Ala
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Gln Phe Ser Lys Ser Leu Thr Asn Leu Lys Arg Ile Asp Leu Leu Pro
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Tyr His Asn Tyr Gly Glu Asn Lys Tyr Gln Ala Ile Gly Arg Glu Tyr
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<213> Clostridium butyricum

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Val Tyr Tyr Asp Gly Val Glu Pro Asn Pro Lys Asp Val Asn Val Ile
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Glu Gly Leu Lys Ile Phe Lys Glu Glu Asn Cys Asp Met Ile Val Thr
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Ala Thr His Glu Gly Asp Leu Tyr Asp Tyr Ala Gly Ile Glu Thr Leu
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Ile Lys Phe Val Ile Val Ser Trp Arg Asn Leu Pro Leu Val Ser Ile
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Asn Asp Pro Met Leu Met Val Lys Lys Pro Ala Gly Leu Thr Ala Ala
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Ile Ser Gln Asn Leu Arg Gln Ala Val Ala Leu Gly Glu Asn Leu Glu
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Asn Asn Ala Asn Leu Gly Tyr Val His Ala Met Ala His Gln Leu Gly
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Gly Leu Tyr Asp Met Ala His Gly Val Ala Asn Ala Met Leu Leu Pro
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His Val Glu Arg Tyr Asn Met Leu Ser Asn Pro Lys Lys Phe Ala Asp
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Ile Ala Glu Phe Met Gly Glu Asn Ile Ser Gly Leu Ser Val Met Glu
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Ala Ala Glu Lys Ala Ile Asn Ala Met Phe Arg Leu Ser Glu Asp Val
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Gly Ile Pro Lys Ser Leu Lys Glu Met Gly Val Lys Gln Glu Asp Phe
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Glu His Met Ala Glu Leu Ala Leu Leu Asp Gly Asn Ala Phe Ser Asn

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<212> DNA

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<223> Description of the artificial sequence : primer

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